Actor network theory and media: do they connect and on what terms?

Book section

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ACTOR NETWORK THEORY AND MEDIA

Do They Connect and on What Terms?

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Actor Network Theory (ANT) is a highly influential account within the sociology of science that seeks to explain social order not through an essentialized notion of "the social" but through the networks of connections among human agents, technologies, and objects. Entities (whether human or nonhuman) within those networks acquire power through the number, extensiveness, and stability of the connections routed through them, and through nothing else. Such connections are contingent and emerge historically (they are not natural) but, if successful, a network acquires the force of "nature": it becomes, in a favorite term of ANT, *black-boxed*. On the face of it, ANT seems perfectly placed to generate a theory of the role(s) of media and communication technologies in contemporary societies: these too have emerged historically, yet over more than a century have acquired the force of nature. Yet this connection has been surprisingly little explored. This chapter asks why, in an attempt to understand the substance as well as the limits of ANT's contribution to how we theorize the connectivities that media enable.

The fact that a stable link between ANT and media theory has not been established—ironically, ANT is not "networked" with media theory—cannot be explained by ignorance. Not only does ANT have

a high profile in the social sciences (as indicated by the wide currency of *We Have Never Been Modern*, the main book of one of the ANT founders, Bruno Latour: Latour, 1993), but in the late 1980s studies of how media technologies, especially television, are embedded in domestic and social space were closely aligned with work in the sociology of science and technology influenced by ANT. Particularly important here was the work of the media sociologist Roger Silverstone (Silverstone, 1994; Silverstone & Hirsch, 1992), who took the lead in allying the analysis of television's domestic integration to wider currents in sociology that studied the highly specific ways in which various technologies—from locks to domestic heating—became embedded in social life from the 19th century onwards. However, Silverstone dismisses ANT's term "network" as little more than a metaphor that fails to displace a more fundamental notion of "system"; that is, the systems that structure and are structured by social action. Here is Silverstone's discussion of another founder of ANT, the sociologist John Law:

> Law prefers the term network to system. . . . In relation to the systems metaphor, Law suggests that it tends to underestimate the fragility of the emerging system in the face of the conflictful environments and conditions in which it is embedded. . . . In relation to the construction metaphor, he argues that the privileging of the social which [that metaphor] demands . . . mistakes the complexity of the relationships that need to be understood if the emergence of new technologies is to be explained. . . . However one can grant this and still privilege the social; *indeed one must do so* [italics added], since the natural, the economic and the technical, in their obduracy or their malleability, have no significance except through social action. . . . The socio-technical system is therefore just that: a more or less fragile, more or less secure, concatenation of human, social and material elements and relations, structured in, and structuring of, social action . . . from this point of view the notion of network does not add much to that of system. (Silverstone, 1994, pp. 84-85)

Here ANT and media theory meet and then quickly diverge. Since this passage was written there have been occasional acknowledgements of their potential affinity, especially in relation to computer-mediated communication (Bingham, 1999; Bolter & Grusin, 2000, pp. 50, 62, 67, 77-78; MacGregor Wise, 1997), but these have not been more widely developed. On the face of it, this could be for two quite different reasons: first, that ANT itself is not a substantial or coherent theory and second, that media pose problems, or set limits, to the applicability of ANT, in spite of its general value as a theory. If the first were true, this chapter would be redundant; indeed, whether that is the case would be a matter not

for media studies but for a more general sociology of technology. I want, however, to concentrate on the second possibility: taking for granted the substantial nature of ANT as a sociological theory and being open therefore to its contribution to our theorization of media, but also wary of the limits and constraints. There is, I suspect, something important at stake in thinking about ANT in media studies, but what exactly is it?

THE CHALLENGE OF ACTOR NETWORK THEORY

ANT starts from the study of science; for example, Latour and Woolgar's influential study of laboratory life (1979). From the beginning, ANT aimed to deconstruct the implicit idealism of traditional sociology of knowledge: instead of seeing scientific theories and discoveries as ideas that float mysteriously above the surface of social interaction, Latour and Woolgar insisted that the results of science are inextricably embedded in what particular scientists do in particular sites of knowledge production, such as laboratories. Latour and Woolgar's deconstruction is so thorough that it undermines the binary opposition between *ideas* and *matter* itself.

In his later programmatic book *We Have Never Been Modern*, Latour rejects also the distinction between an absolute "Society" and an absolute "Nature", because everything involves hybrids of the two (1993, pp. 51-55). ANT is therefore sociology, but in a paradoxical sense, in that it challenges the existence of sociology's apparent object: society or *the social*. Latour's point is not that there is no social dimension to existence, but rather that the social is always already technical, just as the *technical* is always already social. Latour's aim is:

> . . . to avoid the twin pitfalls of sociologism and technologism. We are never faced with objects or social relations, we are faced with chains which are associations of humans . . . and non-humans. . . . No one has ever seen a social relation by itself . . . nor a technical relation. (Latour, 1991, p. 110)

This fundamental skepticism towards both society (or ideas) and technology (or matter) is, I will argue, a major insight that still resonates for media theory and can help us avoid the implicit functionalism in much media theory.

I will provide more context for this claim later, but first we must address Roger Silverstone's contrasting argument that the notion of network adds little to our understanding of the social, or therefore to our understanding of the social dimensions of technology; for, if correct, that would fundamentally undermine the usefulness of ANT for media

theory. Silverstone does not deny that human agents are involved in regular relationships with media technologies that, in turn, form part of the infrastructure of wider social relationships; he is concerned, however, with agency and the necessity (in analyzing the actions and intentions of human agents) of understanding how they are contextualized by more than networks. Networks, by the particular set of links they combine, reinforce certain ways of connecting, while effacing other possibilities, but at most a network sets agents in positions relative to other agents and things (relative, that is, to other *actants,* as ANT calls them, in a term that is deliberately ambiguous between humans and nonhumans: Latour, 1991, p. 123). Those positions limit the possibilities of action in certain ways, but they do not tell us about the dynamics of action. Specifically, the existence of networks does not explain, or even address, agents' interpretations of those networks and their resulting possibilities of action (and it is only human agents that interpret the world, even if, as Woolgar argued, objects and technologies have inscribed within them particular codes and instructions for action: Woolgar, 1991). Networks (and therefore ANT) tell us something important about the embeddedness of social life in media and communications technologies, but they do not offer the basis for a completely new theorization of social order, nor even a new way of analyzing social action, in spite of claiming to do just that. Or, at least, that is Silverstone's argument.

I would not want to disagree with this in one respect. However suggestive are its accounts of how various technologies come to be embedded in social life, ANT does not offer a complete rethinking of society or sociology, in spite of its programmatic ambitions: we will return to some of its limitations in the next section. But to stop at those limitations is to risk missing the continuing importance of ANT's contribution to media theory, which is, in a sense, rhetorical: to warn us at all times against talking as if the everyday workings of media merge seamlessly into the social. ANT's insistence on the necessary hybridity of what we call social relations remains a valuable antidote to the self-effacing, naturalizing potential of media discourse and of much discourse in media studies. In the end, this is a question of power. Let me explain.

I have written elsewhere about the problematic functionalism of much writing in media studies (Couldry, 2005) and will not repeat those arguments here. Put simply, the issue is the tendency in both academic and popular writing about media to speak as if media were the social, as if media were the natural channels of social life and social engagement, rather than highly specific and institutionally focused means for representing social life and channeling social participation. Take this example from Michael Real, who wrote important and pioneering work on the ritual dimensions of media coverage of global sports events such as the Olympics:

> Media serve as the central nervous system of modern society. The search to understand these media draws us into a search for the centre of all that is life in the 20th century. Our media, ourselves. (Real, 1989, p. 13)

My concern here is not whether this captures some of the rhetoric of and around media—it does, even if the biological metaphor is Real's own—but the apparent lack of distance from that rhetoric.

By contrast, let us consider the much more skeptical tone of the following passage in which Latour considers the nature of global networks (he doesn't only have in mind media here, but other passages in the book make clear he is interested in the properties of media: e.g., 1993, pp. 1-3):

> The moderns have simply invented longer networks by enlisting a certain type of nonhumans . . . by multiplying the hybrids . . . that we call machines and facts, collectives have changed their typography . . . we tend to transform the lengthened networks of Westerners into systematic and global totalities. To dispel this mystery, it suffices to follow the unaccustomed paths that allow this variation of scale, and to look at networks of facts and laws rather as one looks at gas lines or sewerage pipes. . . . In the case of technological networks, we have no difficulty reconciling their local aspect and their global dimension. They are composed of particular places, aligned by a series of branchings that cross other places and require other branchings in order to spread. . . . Technological networks . . . are nets thrown over spaces, and retain only a few scattered elements of those spaces. They are connected lines, not surfaces. They are by no means comprehensive, global, or systematic, even though they embrace surfaces without covering them and extend a very long way. (Latour, 1993, pp. 117-118)

A little later, he expresses this anti-idealism in terms of a media metaphor: "Reason today has more in common with a cable television network than with Platonic ideas" (1993, p. 119). This anti-idealism is opposed to various apparently comforting abstractions: not just nature and society but also culture (1993, p. 104) and (as follows, if we read Real and Latour together) the mythical notion of media as society. Indeed the tendency to treat mediation as if it were something else (that is, to make it invisible as such) is, according to Latour, precisely a feature of the philosophical framework of modernity he wants to contest. *Mediation* (in the general sense of the process of constructing technological-social hybrids) is both essential to modernity and rendered "invisible, unthinkable, unrepresentable" within it (1993, p. 34). So the mystification of media's social function (which elsewhere I have analyzed as "the myth of the mediated centre": Couldry, 2003a) is not acci-

dental but part of the effacement of technology's embedding within the social that is characteristic of modernity itself.

Media studies, when it speaks of media as if media were society (as it does whenever it thinks in functionalist terms) contributes to this mystifying effacement of the vast linkage of networks that make up the media process. This mystification is not new: it can be traced back to some of the earliest theory about media's social role. To illustrate this, we can go back to Durkheim's less well-known contemporary, Gabriel Tarde, who, like Durkheim, started from the question of social order, or how we develop our sense of ourselves as *social* individuals. Unlike Durkheim, Tarde related this to an analysis of media institutions' role in social cohesion:

> It is . . . essential that each of the individuals [in a society] be more or less aware of the similarity of his judgements with those of others; for if each one thought himself isolated in his evaluation, none of them would feel himself to be (and hence would not be) bound in close association with others like himself. . . . Now, in order for the consciousness of similarity of ideas to exist among the members of a society, must not the cause of this similarity be the manifestation in words, in writing, or in the Press, of an idea that was individual at first, then little by little generalised? (Tarde, 1969, p. 300) [originally published 1898/99]

For Tarde the equation of media with the social fabric is total and seamless:

> The press unifies and invigorates conversations, makes them uniform in space and diversified in time. Every morning the papers give their publics the conversations for the day. . . . But this subject changes every day and every week. . . . This increasing similarity of simultaneous conversations in an ever more vast geographic domain is one of the most important characteristics of our time. (1969, p. 312)

This power of media is unstoppable and, it appears, beyond criticism, because the implicit equation of media and the social is not questioned: "This is an enormous power, one that can only increase, because the need to agree with the public of which one is a part, to think and act in agreement within opinion, becomes all the more strong and irresistible as the public becomes more numerous, the opinion more imposing and the need itself more often satisfied" (1969, p. 318).

What is missing here is any sense of the power asymmetries built into this *mediazation* (cf. Thompson, 1995, p. 46) of the social. It is here that ANT's skepticism provides the necessary critical distance, even if it

may be expressed hyperbolically in terms of a questioning of "the social" itself. So Callon and Latour describe the project of ANT as "directing our attention not to the social but towards the processes by which an actor creates lasting asymmetries" (1981, pp. 285-286). This insight is vital in getting a perspective on media. Media institutions, whatever the pervasiveness of their reach and however responsive they are to their audiences, remain the beneficiaries of huge and lasting asymmetries in the distribution of symbolic resources. The idea of media *power* is, of course, a commonplace, but its analysis has been bedeviled by the complex two-way nature of the interactions between media institutions and the rest of the social world (whether in terms of social inputs to media production or in the contribution of media productions to social experience and norms). It is ANT that provides us with the most precise language to formulate how this complex flow nonetheless represents a distinctive form of power. For media institutions, however responsive to audiences and the cultural world around them, remain the "obligatory passing points" (Callon & Latour, 1981, p. 287; cf. Callon, 1986, p. 27) in many, even most, circuits of communication. This is at least a good starting point for an analysis of media power that avoids functionalism and remains fixed on the materiality of flows to, through, and from media institutions (cf. Couldry, 2000, chaps. 1, 2, and 3).

So far I have argued that ANT remains important to media theory as an inspiration to orientate ourselves towards certain approaches to media theory and away from others. As an effective antidote to functionalism, it should stay in our theoretical tool kit. But can ANT be more than this and offer the basis for a more comprehensive theory of media in all its dimensions?

THE LIMITS OF ACTOR NETWORK THEORY APPLIED TO MEDIA

In this section we will see that there are important constraints on ANT's usefulness as a general theory of how media contribute to social experience and social organization. The constraints derive from limitations of ANT itself as an attempt to understand human action, as already suggested in the earlier quotation from Roger Silverstone. These limits are, however, not fatal, and towards that end I want to argue that, provided we step aside from its grandiose claims to be a total and radically rethought account of social action, ANT can be an important part of the panoply of media theory.

So far I have expressed the advantages of ANT in terms of its antifunctionalism and its general skepticism about essentialized notions of the social, the technical, the cultural, and so on. ANT's value for under-

standing media can also be expressed more directly in terms of its predominant emphasis on space. ANT's appreciation of the spatial dimension of power—the spatial dispersal of power and the instantiation of power not in mysterious substances located at particular points and in particular individuals, but in the workings of stretched-out networks—derives of course from Foucault's reconceptualization of power (Callon & Latour, 1981; Foucault, 1980). ANT's double connection to space and Foucault helps further explain the apparently paradoxical disconnection between ANT and most existing media theory: for it is precisely the spatial dimension of media power that has been long neglected and whose neglect, in turn, explains the relative absence until recently of Foucauldian social theory in accounts of media power (but see now Mattelart, 1996). Yet the neglect of space is clearly unsustainable for an account of media as complex connectivity. As Anna McCarthy and I have argued elsewhere:

> Understanding media systems and institutions as spatial processes undercuts the infinite space of narrative that media appear to promise; it insists that our object of analysis is never just a collection of texts, but a specific and material organisation of space. Media, like all social processes, are inherently stretched out in space in particular ways, and not others. . . . Media, then, emerge as one of the most important of all displacements at work in the relatively centralised "order" of contemporary societies. (Couldry & McCarthy, 2004, pp. 2-4)

Inevitably, however, ANT's spatial virtue is connected with a limitation, which is ANT's relative neglect of time, at least as a dynamic process that continues to transform networks after they have been formed. At one level, it is incorrect to say that ANT neglects time. Considered from the point of view of the set of actants that come to form a particular network, ANT helps us understand the significance of time in two ways: first, in terms of how the coordination of actors around certain chains of action inevitably involves temporal coordination (whether in the submission of experimental results according to laboratory schedules or the production of accounting information to enable the pricing of electricity supply); time is inseparable from the coordination of sequences of actions in networks. Secondly, time features in typical ANT explanations in terms of how networks come to be established as normal, regular, and, gradually, as natural. This is the basis of ANT's profound insight about naturalization that, although not unique to ANT (it is central also to the work of Pierre Bourdieu) is especially relevant to an understanding of media's social dynamics, as we shall see. As Latour and Woolgar put it in *Laboratory Life*, "the result of the *construction* [italics added] of a fact is that it appears unconstructed by anyone"

(1979, p. 240). ANT therefore disrupts the sociology of knowledge by emphasizing both spatial and temporal asymmetries at least to the point where facts get established. Even better, Callon and Latour (1981) leave open, at least in theory, the possibility that facts are reversible and the "black boxes" (that is, the actors such as scientific or media institutions inside which lie collections of hidden networks) may be pried open.

The problem, however, is that ANT remained much more interested in the establishment of networks than in their later dynamics. The closure involved in the establishment of a network is real, but how does it help us understand how a network changes and perhaps becomes destabilized? The answer is that it doesn't—at least not without an addition to the theory. Whereas ANT's bias towards the achievement of actor-networks may be refreshing in its boldness, the overall result of work in this area is, as Barry Barnes has argued, to skew the field of analysis towards a narrative of success (what he calls a "mock-heroic history": 2001, p. 344). Worse, what is celebrated is limited to an account of human agency as extended by technological networks:

> For all that at one level actor-network theory modestly follows the actors and marks no distinction of its own between humans and things, at another level it is a profoundly intrusive monism engaged in the celebration of human agency. (2001, p. 344)

ANT is interested in the celebration of human agency in terms of its entanglement with technology, and not any other dimensions of human agency—all this, in spite of the fact that from other perspectives networks are at most the infrastructure of human action, not its dynamic content.

One problem, then, of building ANT into a fuller account of media is its neglect of time, or rather its concentration on one type of temporal dynamic and historical achievement, at the expense of others. This first limitation is linked to a second: ANT's neglect of the long-term consequences of networks for the distribution of social power. Once again this is not an absolute neglect, but rather a matter of emphasis, which nonetheless is consistent and whose silences are unsatisfactory. As we saw in the last section, ANT offers a precise and nonfunctionalist account of how actors become established as powerful through the stability of the networks that pass through them. The actor (human or nonhuman) that is an obligatory passing-point in a network has power, and the more networks in which that is true, the more power that actor has. As a result, over time, the ability of an actor to act effectively on a larger scale becomes established. Although it requires much further work (cf. Couldry, 2003b), there is the basis here for a useful account of how media institutions have gradually acquired power over large territories

through their incremental insertion in an increasingly dense web of communication circuits.

What limits the usefulness of ANT as a research tradition for media analysis and social analysis generally is its relative lack of interest in the long-term power consequences of networks' establishment for social space as a whole and its equality or inequality. For all its intellectual radicalism, ANT comes charged with a heavy load of political conservatism that is, I would argue, directly linked to its professed disinterest in human agency. Power differentials between human actors matter in a way that power differentials (if that is the right term) between nonhumans do not: they have social consequences that are linked to how these differences are interpreted and how they affect the various agents' ability to have their interpretations of the world stick. ANT has much to contribute to understanding the "how" of such asymmetries, but it is strangely silent when it comes to assessing whether, and why, they matter. Its deconstruction of the humanist subject is here disabling—nor is this surprising, because this is precisely the paradox of value at the crux of Foucault's work, as many have argued (Best & Kellner, 1991, pp. 64-65; Taylor, 1986), and, as noted, it is on Foucault's intellectual legacy that ANT is built. MacGregor Wise's criticism of ANT's neglect of both wider power structures and of possibilities of resistance to and contestation of them is therefore well placed (MacGregor Wise, 1997, pp. 31-39). Because media are quite clearly a major dimension of contemporary power structures and also a zone of intense contestation, the limits of ANT as the basis for a general critical theory of media are clear.

These first two limitations share a common pattern: ANT's initial insights into a dimension of social order (spatiality of networks, power asymmetries) are not developed for a network's longer-term consequences for social space and its implications for power. This suggests a third limitation on ANT's usefulness for a general theory of media, which concerns interpretation: its lack of interest in the possibility that networks and their products go on being reinterpreted long after they have been established. This is an especially important problem in relation to networks that produce objects whose main purpose is to generate interpretations (such as media). Once again, ANT was pathbreaking in showing how processes that apparently are purely material (the production of cars or the distribution of electricity) depend crucially on interpretations and contests over interpretation by various actors, and how certain interpretations come to acquire dominance as their picture of the world gets hardwired into the patterning of action. However, this tells us little about the life of objects, such as texts, that are produced to be interpreted, nor about how other objects, as they circulate beyond their original context, remain to various degrees open to reinterpretation by uses, consumers, and audiences. This takes us back to

Silverstone's criticism of ANT, discussed earlier, that it tries to exclude the social process in a way that is impossible, ignoring a large part of how material processes and infrastructures come to have meaning for us. One could equally say that ANT seeks to exclude culture, the realm of symbolic production, except insofar as it contributes to the putting in place of stable networks of actors. If so, ANT cannot tell us enough to generate a broader theory of media.

This becomes even clearer when we look at a rare case which ANT has attempted to discuss not technology but culture (Gomert & Hennion, 1999). Gomert and Hennion's essay, *A Sociology of Attachment: Music Amateurs, Drug Users,* argues that ANT opens up a new approach to cultural production and cultural engagement. This derives from ANT's serious interest in mediation. ANT, Gomert and Hennion argue, moves beyond the analysis of the actions of single human actors to study the action-events that emerge from networks. The competences of actors cannot be understood in an individualistic way but rather "are shaped by the social and material organization of work, the lay-out of . . . institutions, the means of communication" (Gomert & Hennion, 1999, p. 224). All this is developed in ANT without treating "action" by human agents as the main unit of analysis. Instead ANT is able to look more openly at the processes that are really significant: "what happens *only sometimes* [italics added] takes the form of an action that may be distributed to circumscribed sources" (1999, p. 225). This, in fact, is what Gomert and Hennion mean by mediation: "Mediation is a turn towards what emerges, what is shaped and composed, what cannot be reduced to an intersection of causal objects and intentional persons" (1999, p. 226). One example is the emergence of the passion that the music lover feels for music, which, as they point out, cannot be reduced to a simple relation between actor (the music lover) and object (the musical text): "From a long set of mediations (scores, instruments, gestures and bodies, stages and mediums) at certain moments, on top of it all, something might happen" (1999, p. 245). This is an almost mystical evocation of the emergence of musical experience out of a complex chain of mediations and connections. But its lyricism exposes the fact that ANT, as a theory of networks between human and nonhuman actors, has very little to say about processes that come after the establishment of networks: what comes after—the acts of interpretation and attachment—becomes mysterious because, by definition, it cannot be encompassed in an account of how the broad infrastructures of actors and objects (on which, to be sure, it depends) have emerged.

This is not to say that we can learn nothing from ANT about how, for example, music lovers or film lovers understand what they do, but rather that ANT's insights must be extended from a sociology of networks into what Gomert and Hennion seem to want to avoid—a sociology of action and interpretation. We need, in other words, to think about

how people's cognitive and emotive frameworks are shaped by the underlying features of the networks in which they are situated. If expressed in these terms, there is a great deal to be learned from ANT in understanding everyday practices around media.

The starting point is that, at the macro level, a medium such as television can be understood as a huge networked space characterized by a fundamental division between producers of meaning (i.e., those acknowledged as such: media institutions and particular actors within them) and consumers of meaning (audiences). It is not that those who work for media institutions are not also consumers of meaning or that audiences do not produce meanings (as audiences research has long emphasized they do), but rather that the space of television is organized so that only under specific and controlled conditions are audience meanings channeled back to media institutions so that they count as meaning production, and even then they remain subordinate to the productions of media institutions. Many of the paradoxes and tensions in how media institutions treat the people who are their audiences can be formulated in the terms that the ANT theorist John Law used to explain the production of knowledge: the "modes of ordering" which position certain types of practices as expert practices and "the relatively consistent pattern of deletion", which disempowers other practices (cf. Couldry, 2000, p. 49; Law, 1994, pp. 110-111). Hall's early (1973) but seminal analysis of how particular people are systematically overaccessed in the production of media narratives, whereas others by the same token are systematically underaccessed, fits well with the language of ANT because it is an attempt to dig beneath the regularities in how media link particular agents and objects into their production process and not others.

This explains why, at the outset, I insisted we should not follow Silverstone in dismissing the insights of ANT as a blind alley in the search for a wider theory of media. On the contrary, ANT offers fundamental insights into the spatiality of networks and into the nature of contemporary power formations, particularly the way important asymmetries of power get hardwired into the organization of action and thought so that they become, precisely, difficult to see and articulate as power. This is a vital starting point for understanding the consequences of media for social and cultural experience. The difficulty is to overcome ANT's self-imposed limitations as a sociology of networks and make the necessary connections to a sociology of action. If we consider media as a distinctive social process that links producers and audiences in a regular set of relationships for the production and consumption of meaning in particular time cycles across large territories, then the organization of those relationships, and particularly their asymmetries, must have consequences for how both media producers and audiences think about their possibilities of action. My own view is that to make progress here

we need to look elsewhere in the history of French social thought and draw on Emile Durkheim, particularly as reworked by Pierre Bourdieu. We need Durkheim's notion of social categories, and Bourdieu's notion of *habitus*. This is a line of argument that I have tried to develop through work on people's general orientations to the media process and ritualized aspects of media (Couldry, 2000, 2003a). There is a great deal more work to be done, but ANT remains a useful inspiration. In the next section, I want to illustrate this point through a brief consideration of the familiar concept of liveness from the point of view of networks.

LIVENESS AS CONNECTEDNESS

The term "liveness" has long been recognized in media discourse and in academic writing on media as a central feature of television and certain other media. Television, for example, prides itself on its "live" moments. This quality of television has generally been analyzed in terms of the properties of the televisual text, which characterize liveness. In fact, however, liveness is best understood as a term that stands in for the optimal connectedness of which the usual network between television producers and audiences is capable. As I have argued elsewhere (cf. Bourdon, 2000; cf. Couldry, 2003a, p. 99), liveness is a category that naturalizes the idea that through the media we achieve shared attention to the realities that matter for us as a society. The special status given to live media can therefore be understood in actor-network terms as the time when media's status as mediation is most effectively black-boxed, because of the direct link to events as they happen. Liveness is, in effect, a network value, and it is a value whose applicability across media is increasing (to the Internet, for example).

There is much more that could be said about how liveness works as a category in relation to everyday media, but instead I want to bring out how liveness's categorical weight is now under challenge by other forms of connection that are not linked to a media production center in the same way. We are entering a period in which there is likely to be a dynamic interplay between different modes of liveness and the differently organized networks for which they stand.

Two fundamental shifts in information and communications technologies in the past decade threaten, prima facie, to destabilize liveness in the sense it has been usually understood until now.

The first is what we could call *online liveness*: social copresence on a variety of scales from very small groups in chatrooms to huge international audiences for breaking news on major websites, all made possible by the Internet as an underlying infrastructure. Often, online liveness overlaps with the existing category of liveness; for example, websites

linked to reality TV programs such as *Big Brother* that simply offer an alternative outlet for material that could in principle have been broadcast on television, if there had been an audience to justify it. Online liveness here is simply an extension of traditional liveness across media, not a new way of coordinating social experience. Any number of live transmissions can occur online in parallel without interfering with each other, all of them involving the simultaneous copresence of an audience, but in some cases (e.g. website chatrooms) there is often no liveness in the traditional sense, because there is no plausible connection to a centre of transmission. Whether the Internet will, in the longer term, lead to a fragmentation of any sense of a center of transmission remains uncertain, although much, including the Internet's capacity to deliver advertising audiences to fund continued media production, will depend on this.

The second rival form of liveness we might call *group liveness*, but it would not seem, at first sight, to overlap at all with traditional liveness, because it starts from the copresence of a social group, not the copresence of an audience dispersed around an institutional center. I mean here, for example, the liveness of a mobile group of friends who are in continuous contact via their mobile phones through calls and texting. Peer-group presence is, of course, hardly new, but its continuous mediation through shared access to a communications infrastructure, whose entry-points are themselves mobile and therefore can be permanently open, is new. It enables individuals and groups to be continuously copresent to each other even as they move independently across space. This transformation of social space may override individuals' passage between sites of fixed media access, as when school friends continue to text each other when they get home, enter their bedrooms, and switch on their computers. As well as being a significant extension of social group dynamics, group liveness offers to the commercial interests that maintain the mobile telephony network an expanded space for centralized transmission of news, services, and advertising.

What is particularly interesting about the case of mobile telephony is that the same communications space can be the vehicle for two quite different networks, one centralized (for advertising and news transmission purposes) and the other person-to-person, but both in some sense characterized by liveness. Clearly, in the longer term, the meaning of the term liveness may be determined by the different meanings and values given to these rival forms of connection.

CONCLUSION

I have argued that the relationship between ANT and media theory is a significant, if uneasy, one. On the one hand, there are important reasons why ANT cannot offer a total theory of media: these are its insufficient

attention to questions of time, power and interpretation. On the other hand, there are important reasons why ANT should be an important part of the media theorist's tool kit. The divergence of ANT and media sociology in the early 1990s, and their relative disconnection from each other, is therefore unfortunate, because ANT remains an important antidote to functionalist versions of media theory and an inspiration towards developing better versions of a materialist approach to understanding what media are and their consequences for the social world and social space.

That this hasn't happened so far is due, perhaps in part, to ANT's political quietism and its excessive hostility to any notion of the social. ANT was right to see that any account of the social that closed its eyes to the social embedding of technology was doomed, but wrong to close down the possibilities of how we might think about the relationship between social and technological to questions of network coordination. In a recent essay, Karin Knorr-Cetina (herself a social theorist with affinity to ANT) has tried to formulate these questions in a more open way in terms of a rethinking of social order that does not rely on notions of social substance (Knorr-Cetina, 2001). The role of technologies such as media in organising forms of attachment and belonging can be analyzed without abandoning our interest in social interaction and its dynamics. Knorr-Cetina's suggestion that we consider computer programs, investment vehicles, and fashion designs (she could easily have added radio phone-ins and lifestyle TV programs) as "unfolding structures of absences" (2001, p. 527) is striking. This captures both the patterned, highly routinized nature of how media contribute to the social world and media's imaginative openness. Crucially, Knorr-Cetina raises the question of interpretation and representation ignored by ANT: we must think, she argues, about "the pervasiveness of the images themselves in a media and information society" and their contribution to what now passes for social order. This is to take on the challenge that media power provides to our understanding of the social, but be ready to admit that this challenge, as yet, remains unsolved:

> The retraction of [traditional] social principles leaves no holes . . . in the fabric of cultural patterns. There has been no loss of texture for society, though what the texture consists of may need rethinking. (2001, p. 527)

In trying to avoid the question of the social through the fix of a reified notion of networks as technical-social hybrids, ANT offered a premature closure of what remain interesting and open issues. But that, as I have argued, is no reason to lose interest in ANT within media theory, for it can still inspire us, even as we push its insights in other directions and over different territory from that which it originally set for itself.

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